

## REMARKS

### **A. Status of the Application**

Claims 1-43 were originally pending in the application. Claims 1-24 were previously withdrawn from further consideration in response to a restriction requirement. Thus, claims 25-43 are pending in the application. Claims 27 and 36 were canceled. Therefore, claims 25, 26, 28-35 and 37-43 remain at issue in the current application.

### **B. Rejection of the Claims under 35 U.S.C. §102**

Claims 25-27, 29 and 30 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,513,036 to Thompson et al. In order for a reference to act as a §102 bar to patentability, the reference must teach each and every element of the claimed invention. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 771 (Fed. Cir. 1983). Without the required teaching of "each and every element" as set forth in the claims, it is improper to continue such rejections under §102(b). Thompson et al. do not teach each and every element of the claimed invention, specifically as amended, and thus fails as an anticipatory reference.

Thompson et al. disclose a laminate of a paperboard substrate, to which is applied a propylene polymer. Overlaying the polypropylene web is a web of heat-sealable olefin polymer (col. 3, lines 24-28, and lines 41-44). To enhance adhesion between the olefin polymer layer and the propylene polymer web, an adhesive layer, such as EMA, can be deposited between the layers (col. 4, lines 3-5). Other means to enhance adhesion include treating the propylene coated paperboard by flame treatment, corona discharge, or the like, and subsequently overcoating the propylene polymer barrier web with a web of olefin polymer (col. 4, line 25-29; claim 1).

Applicant's invention is directed to a co-extruded polymer coated sheet material. Specifically, Applicant uses a cellulosic substrate upon which polypropylene is co-extruded with at least one additional polymer, such as polyethylene. The polymers are co-extruded onto the substrate so that the molten polypropylene layer is adjacent the surface of the substrate and is sandwiched between the substrate and the second polymer layer (page 3, lines 19-28 of the specification). The molten polypropylene layer penetrates into at least a portion of the substrate layer. The resulting multi-layer sheet material exhibits good interlaminar bonding such that the adhesive strength

between the polypropylene polymer layer and the substrate is greater than the cohesive strength of the cellulosic substrate, avoiding delamination (page 4, lines 10-17 of the specification).

Unlike the structure disclosed in Thompson et al., the polypropylene layer of Applicant's invention is not treated in any manner to enhance the adhesion between the layers. Claim 1 of Thompson et al. specifically recites that the "propylene polymer layer having an inner surface which has been treated to enhance adhesion." In Thompson et al., pre-treatment of the polymer, or addition of an adhesive layer, such as EMA, and subsequent treatment of the laminate with electron beam radiation to cross-link the EMA, is desired to improve adhesion between the layers (col. 4, lines 5-13). Applicant, however, does not discuss the use of an additional adhesive layer between the propylene and polyethylene layers. Furthermore, Applicant discusses the **disadvantages** of pretreatment steps to enhance the bonding of polypropylene to a paper substrate (Specification, p.2, lines 9-16). Thus, any form of pretreatment or use of adhesive is undesirable in Applicant's invention, and Applicant's invention is not anticipated by Thompson et al.

Therefore, because Thompson et al. does not teach each and every element of the claims of Applicant's invention, it fails as an anticipatory reference. Applicant respectfully requests withdrawal of the anticipatory rejection of claim 25, as well as its remaining dependent claims 26, 29 and 30.

**C. Rejection of the Claims under 35 U.S.C. §103**

Claims 25, 26 and 28-31 continue to stand rejected under 35 U.S.C. §103(a) as being unpatentable over Re27,610 to Rausing et al. Applicant respectfully requests reconsideration of this rejection because Applicant's invention is not obvious in view of this reference.

Rausing et al. disclose a packaging material having three lamination layers, with the base material being paper, and the inner layer and intermediate layer being a thermoplastic material (col. 1, lines 24-29). Polypropylene can be used for the intermediate layer, and polyethylene for the inner layer, which is intended for heat sealing (col. 1, lines 53-55). Rausing et al. manufacture the packaging material by extruding the first plastic film onto the base material, and then calendering the laminate. From a second extrusion nozzle, the second plastic film is extruded, and the three layer laminate is calendered between a second pair of rolls (col. 2, lines 61-72). The layers are heat sealed

together, wherein the inner layer (polyethylene) melts, and the intermediate layer (polypropylene) remains unmelted, thereby preventing the material from one layer from being pressed into the base material layer (col.1, lines 37-46 and col. 3, claim1).

Rausing et al. do not teach Applicant's invention. Applicant describes and claims **co-extruding** the polymer layers onto the substrate. There is no teaching or suggestion in Rausing et al. that the polymer layers are co-extruded together. Further, Rausing et al. describe and claim that the "layers are prevented from being pressed into each other" (col. 3, lines 23-24 of claim 1 and col. 1, lines 37-46). In Applicant's invention, the polymers are co-extruded onto a support substrate so that the molten polypropylene layer is adjacent the substrate, and penetrates into at least a portion of the substrate layer, as recited in amended claim 25. The co-extruded, molten polypropylene layer of the present invention is distinct from the product of Rausing et al. Thus, Applicant's invention is not obvious in view of Rausing et al.

Claims 25-43 continue to stand rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 4,859,511 to Patterson et al., in view of Rausing et al., described above, and U.S. Patent No. 4,855,187 to Osgood, Jr. et al.

At the outset, the references individually do not teach Applicant's invention, and there is no motivation to combine these references. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the modification suggested by the Examiner. That knowledge cannot come from the Applicant's invention itself. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992). Further, "the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992). Thus, modification of Patterson et al. in view of Rausing et al. and Osgood et al. in a manner that apparently reconstructs Applicant's invention is improper and insufficient to present a *prima facie* case of obviousness.

Patterson et al. disclose release sheets that include a support substrate having a release layer formed on at least one side thereof with an undercoating layer interposed between the support substrate and the release layer (col. 2, lines 3-6). Suitable support substrates include polymeric films, and paper extrusion-coated with polyolefins (col. 2, lines 39-44). Patterson et al. further include an

undercoat layers consisting essentially of hydrocarbon materials having low polar surface energy and low modulus of elasticity (col. 2, lines 6-9).

The teaching of Patterson et al. is distinct from Applicant's invention. Notably, Patterson et al. do not teach the multilayer film formed from co-extruding polypropylene and polyethylene onto a substrate, as taught and claimed by Applicant. This distinction is likewise noted by the Examiner. Specifically, the Examiner stated: "Patterson et al. fail to teach structure such as a paper/polypropylene/polyethylene or paper/polypropylene/polyethylene/polypropylene for base for release coat. (Office Action mailed November 1, 2002, p.4). Applicant does not incorporate an undercoat layer as in Patterson et al. Further, Patterson et al. do not teach a molten polypropylene layer which is adjacent the substrate. Applicant's resulting product is certainly distinguishable from Patterson et al., and Patterson et al. do not teach or suggest Applicant's product.

Osgood et al. is discloses polypropylene films. Applicant discloses a **co-extruded** polymer coated substrate, which is completely different from the polypropylene film of Osgood et al. Osgood et al.'s product is a film, **not** a co-extruded product. As with the prior references, Osgood et al. do not teach or suggest polymers co-extruded onto a substrate, nor a molten polypropylene layer, and thus, Osgood et al. do not teach or suggest Applicant's invention.

As previously discussed, Rausing et al. fails to teach Applicant's co-extruded multiple polymer layers, wherein the polypropylene layer is molten into at least a portion of the substrate layer. The distinct differences in the references presented above, and the fact each reference discloses a completely different product than that described and claimed by Applicant, negates any motivation to combine the references. Further, the addition of Patterson et al. and Osgood et al. again, neither of which alone teaches or suggests Applicant's invention, does not overcome the previously discussed deficiencies of Rausing et al. to render Applicant's invention obvious.

Even if the references were properly combined, Applicant's invention is still not obvious in view of the combination of references. Applicant's invention is a multilayered structure including a cellulosic substrate with a co-extruded polymeric layer on the surface thereof. Further, in Applicant's invention, the molten polypropylene layer penetrates at least into a portion of the substrate. All of the references have been distinguished individually from Applicant's invention.

None of the references, alone or in combination, teach or suggest Applicant's invention. Applicant respectfully requests that the rejection under §103 be withdrawn.

**Conclusion**

In view of the amendments and arguments presented above, Applicant respectfully submits that Claims 25, 26, 28-35 and 37-43 are now in condition for allowance, and such action is respectfully requested.

Respectfully submitted

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